«SEGWAY RACE»
CONTEST RULES

Version 2.5 dated August 17, 2017

Contents

1. General Rules

1.1. Task Description

Following the black line, the robot has to get from the starting area to the finish area within the shortest possible time.

2. Field specification

The following requirements apply to the field:
the field is a white colored track with the black line on the surface (see fig. 1);
line width is 50 mm;
the radius of line curvature is not less than 300 mm in each point of line;
there may be two obstacles placed on the line: the brick and the hill;
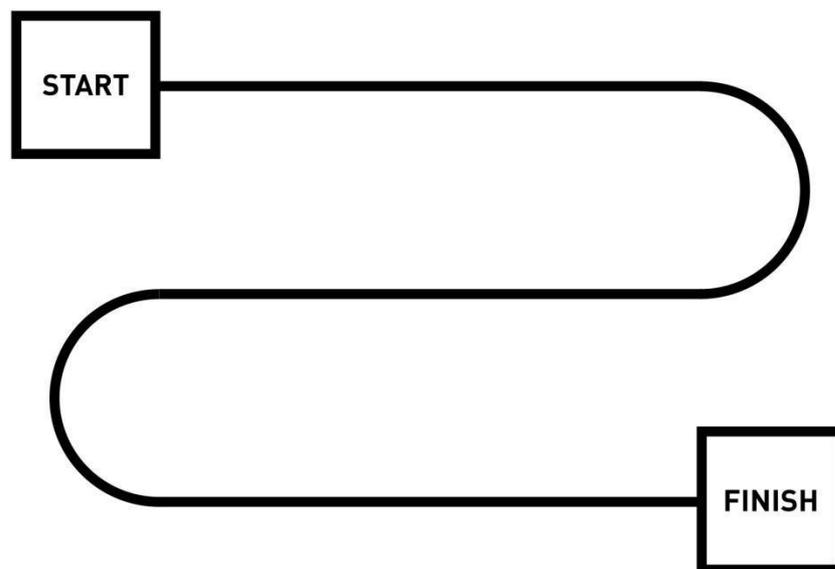the «brick» is a right-angled parallelepiped.

Fig. 1. The field scheme

2. Robot specification

The following requirements apply to the robot:
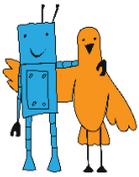the robot must be fully autonomous;
length is no more than 40 cm;
width is no more than 40 cm;
height is no more than 40 cm;
there are no restrictions on weight;
size of the robot may be changed during the race;

the robot must have no more than two fulcrums.

4. Procedure of the competitions

The race time is three minutes.

Obstacles are placed on the field before the race starts:

the brick is placed with its smallest side on the middle straight part of the line so that its largest side is perpendicular to the line;

the hill is placed on the nearest to finish straight part of the line.

The robot operator may remove one or two obstacles at his or her discretion.

At the start the robot must be placed within the starting area.

Race is terminated by the referee's signal after any fulcrum of the robot has crossed the finish line.

By the referee's decision the race may be terminated before the appointed time.

Each team is given no less than two attempts. The exact number of attempts will be determined by jury on the day of the competition. The best result of attempts is counted.

The track is separated by elements robot should pass for. For passing of each track element the robot is scored by count of points according to table 1.

Table 1. Track elements and points scored for them

№	Track element	Points for passing element
1	2	3
1.	Straight section of the line without obstacle	10
2.	Straight section of the line with obstacle	50
3.	Line turn	20

4.1. Termination of the Task Execution

Task execution and time counting may be terminated in the following cases:

the robot has left the line for more than five seconds without performing of the brick detour maneuver;

the time allocated for race has been expired;

the robot has lost the balance (has had more than two fulcrums at some moment).

The robot is considered to be leaved the line if none of line parts is placed between outer borders of robot supports.

The robot is considered to be performed the brick detour maneuver if it leaved the straight segment of the line where brick is placed and returned on the line in the same straight segment.

If the task execution is stopped before the time attempt expires, the time spent for task execution and points scored during the attempt will be taken into account.
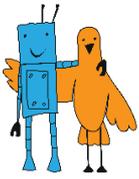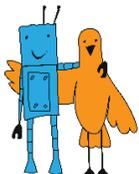
4.2. Ineligibility conditions

In the following cases the robot will be disqualified:
during the attempt any team member has touched the robot;
the robot is non-autonomous (the human is in control of the robot).

3. Procedure to Determine the winner

The team whose robot scored the maximal count of points in the best (minimum) time is declared as winner.

4. Revision History

№	Doc. No.	Date	Note	Previous Version	Update Version
1	2	3	4	5	6
1.	2.1		Paragraph removed	4.1	
2.			Paragraph added		1.2
3.			Section changed	4.6	
4.	2.2		Paragraph removed	1.2	
5.			Section changed		3.2, 4.1, 1.1.4, 2.1.5
6.	2.3		Section changed		3.4
7.			Paragraph added		3.4.1, 3.4.2
8.	3.0		Entire text changed	Based on version 2.3	
9.					
10.					
11.					
12.					